

Dolichopodidae (Diptera) of Inner West Anatolia (Turkey) with a new species record

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Abstract

This study was carried out between 2009 and 2011 in the Inner West Anatolia region (Afyonkarahisar, Kütahya and Uşak). It was determined that the collected species belonged to eight subfamilies, 21 genera and 54 species. *Neurigona suturalis* is a new record for Turkey and the other 53 species are new records for the Inner West Anatolia.

Keywords

Dolichopodidae, fauna, new record, Inner West Anatolia

Introduction

Dolichopodidae is one of seven families within the superfamily Empidoidea and one of the biggest families in Diptera in terms of the number of species. It contains approximately 8000 species in the world. It is known that 200 species belonging to 35 genera are known from Turkey (Küçükberber et al., 2017; Kechev et al., 2020).

The body length of adult dolichopodids ranges from 0.8 to 9.0 mm. Adults is often identified by their metallic coloration, wings and males' genitalia. The adult dolichopodids occur in semi-aquatic and aquatic fields, like marshlands, woodlands, grasslands, etc. Adults are predaceous and feeding primarily on small, soft-

bodied arthropods and annelids. Dolichopodids are important and ubiquitous natural enemies of pests in a variety of habitats (Grichanov, Brooks, 2017).

The Inner West Anatolia is located in the east of the Aegean Region and it contains three provinces, 37 districts and 1145 villages. The research area with 31.446 square kilometers constitutes 4% of the territory of Turkey. Previous studies on the dolichopodid fauna of the Inner West Anatolia have reported 22 species from the research area (Tonguç, Barlas, 2011; Tonguç et al., 2013; Tonguç et al, 2016a). This work reports data about new records of dolichopodid fauna in the Inner West Anatolia in Turkey.

Material and Methods

Field surveys were carried out between 2009 and 2011 in the Inner West Anatolia, and namely the Afyonkarahisar, Kütahya and Uşak provinces (Fig. 1). Adult specimens were collected from habitats such as freshwater seepages, damp ground, tree trunks, river rocks and grass leaves using an entomological hand net.

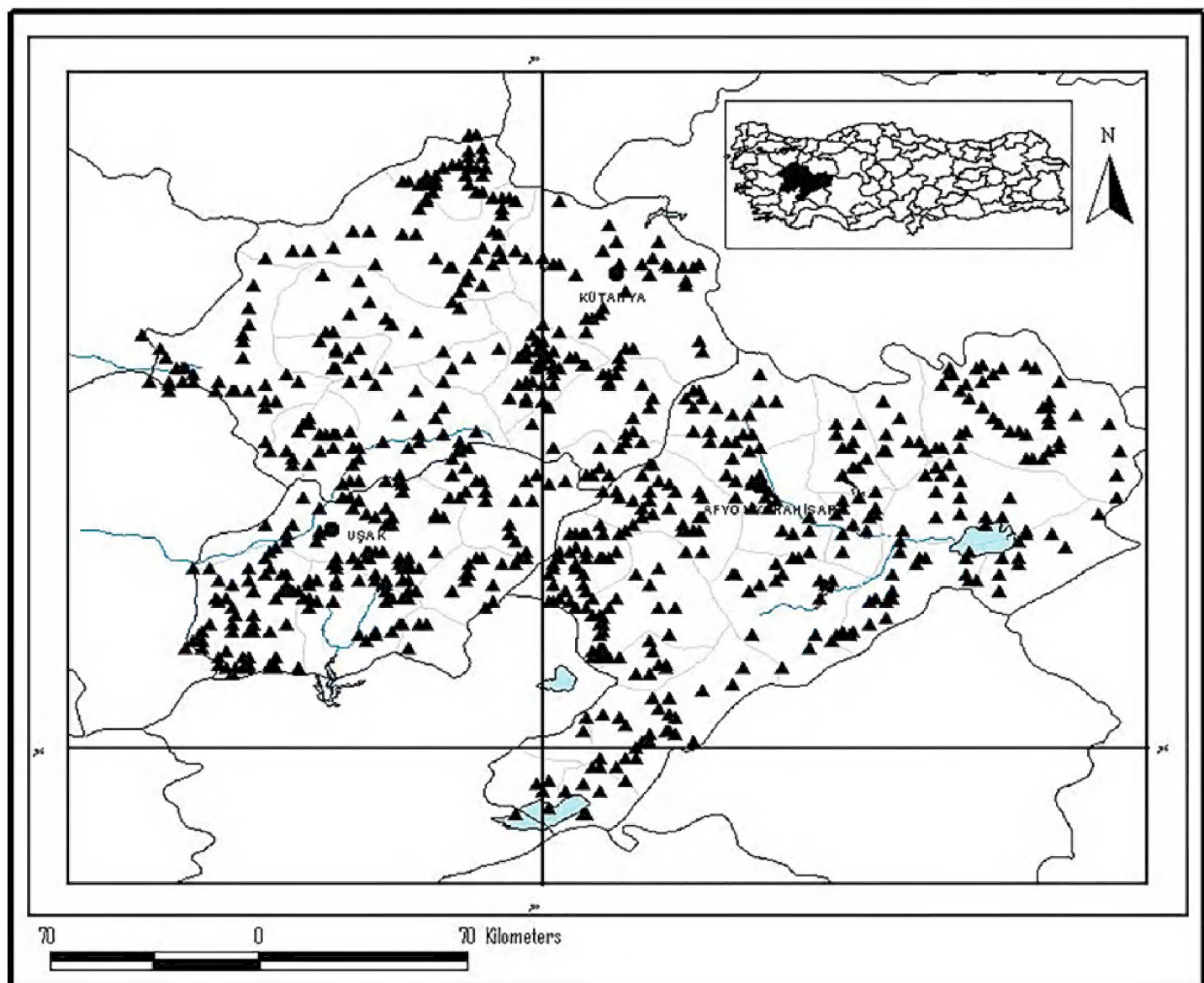


Figure 1. Localities within the research area where dolichopodid specimens were collected

The collected specimens were preserved in jars containing ethyl acetate. Later, they were put in vials containing 70% ethyl alcohol or in insect envelopes. The collected specimens were identified using a binocular microscope. The faunistic list of the species and their distribution in Turkey are given according to Tonguç et al. (2016a). The Palearctic distribution is presented following Yang et al. (2006) and Grichanov (2007) and using the following country abbreviations: Afghanistan (AF), Albania (AL), Algeria (DZ), Andorra (AD), Armenia (AM), Azerbaijan (AZ), Austria (AT), Belarus (BY), Belgium (BE), Bosnia-Herzegovina? (BA), Bulgaria (BG), Croatia (HR), Czech Republic (CZ), Denmark (DK), Egypt (EG), England (EN), Estonia (EE), Finland (FI), France (FR), Georgia (GE), Greece (GR), Germany (DE), Holland (NL), Hungary (HU), Iceland (IS), Iraq (IQ), Iran (IR), Ireland (IE), Israel (IL), Italy (IT), Kazakhstan (KZ), Kyrgyzstan (KG), Lithuania (LT), Luxembourg (LU), Macedonia (MK), Moldova (MD), Morocco (MA), Norway (NO), Poland (PL), Portugal (PT), Romania (RO), Russia (RU), Slovakia (SK), Slovenia (SI), Spain (ES), Sweden (SE), Switzerland (CH), Syria (SY), Tajikistan (TJ), Tunisia (TN), Turkmenistan (TM), Turkey (TR), Ukraine (UA), Uzbekistan (UZ).

Results

Faunistic list

As a result of the identification of the collected specimens, 54 species, 21 genera and eight subfamilies were determined.

Diaphorinae Schiner, 1864

***Argyra vestita* (Wiedemann, 1817)**

Material examined: **Afyonkarahisar:** *Başmakçı*, Akçapınar Village (37° 50' N / 29° 59' E), 850 m a.s.l., 11.05.2010, 1 ♂, 5 ♀♀; **Kütahya:** *Gediz*, Gölcük Village (38° 53' N / 29° 17' E) 649 m a.s.l., 14.07.2010, 1 ♂, 1 ♀; **Uşak:** *Eşme*, İsalır Reservoir (38° 29' N / 29° 03' E), 820 m a.s.l., 24.08.2009, 1 ♂.

Palearctic Distribution: TR, AT, BE, BG, BY, CH, CZ, DE, DK, EN, FI, HU, IE, FR, IL, IT, NO, NL, PL, RO, RU, SK.

Distribution in Turkey: Van.

***Chrysotus pennatus* Lichwardt, 1902**

Material examined: **Kütahya:** *Gediz*, Fırdan, Değirmen Place (38° 57' N / 29° 22' E) 691 m a.s.l., 14.07.2010, 1 ♂; **Uşak:** *Centrum*, Halilefendi Village, Zahman Stream (38° 40' N / 29° 05' E), 655 m a.s.l., 22.04.2010, 1 ♂.

Palearctic Distribution: TR, AM, BG, DE, GR, HU, IT, RO, RU, SI.

Distribution in Turkey: Antalya.

***Chrysotus pulchellus* Kowarz, 1874**

Material examined: **Afyonkarahisar:** *Çay*, Çayır yazı Village, Genali Place (38° 22' N / 30° 44' E), 1016 m a.s.l., 11.05.2010, 1 ♂; *Sandıklı*, Sorgun Akdağ 15. km (38° 20' N / 30° 01' E), 1467 m a.s.l., 25.05.2010, 1 ♂.

Palearctic Distribution: TR, AT, BE, BG, BY, CZ, CH, DE, DK, EE, EN, ES, FI, FR, GE, GR, HU, IT, KG, LU, NL, NO, PL, RO, RU, SE, SK, UA.

Distribution in Turkey: Adapazarı.

***Chrysotus suavis* Loew, 1857**

Material examined: **Uşak:** *Sivashi*, Pınarbaşı, Yediahar Place (38° 28' N / 29° 42' E), 1176 m a.s.l., 09.06.2009, 1 ♂.

Palearctic Distribution: TR, AF, AM, AT, BE, BG, CH, CZ, DE, DZ, EG, EN, ES, FI, FR, GE, GR, HU, IL, IQ, IT, NL, NO, PL, RO, SE, SI, SK?, RU, UA.

Distribution in Turkey: Adıyaman, Antalya, Antakya, Artvin, Gaziantep, Şanlıurfa.

***Diaphorus hoffmannseggii* Meigen, 1830**

Material examined: **Kütahya:** *Gediz*, Murat Mountain 22. km, (38° 57' N / 29° 36' E), 1323 m a.s.l., 29.05.2009, 1 ♂.

Palearctic Distribution: TR, AT, BE, CH, CZ, DE, DK, EN, FI, FR, HU, IL, IT, NL, PL, RO, RU, SE, SK.

Distribution in Turkey: Zonguldak.

***Dolichopodinae* Latreille, 1809**

***Dolichopus excisus* Loew, 1859**

Material examined: **Afyonkarahisar:** *Başmakçı*, Akçapınar Village 6. km (37° 50' N / 29° 58' E), 853 m a.s.l., 28.05.2009, 2 ♂♂; **Kütahya:** Kütahya-Afyonkarahisar Road 60. km, Tatahmet Bridge (39° 04' N / 30° 12' E), 1029 m a.s.l., 31.07.2009, 1 ♂; **Uşak:** *Centrum*, Sorkun Village (38° 45' N / 29° 23' E) 31 m a.s.l., 01.07.2010, 4 ♂♂, 2 ♀♀.

Palearctic Distribution: TR, AM, AT, BE, BG, BY, CZ, DE, ES, FR, HU, IL, IT, NL, PL, RO, RU, SK, TJ, TM, UA.

Distribution in Turkey: Antalya, Burdur, Muğla.

***Dolichopus latilimbatus* Macquart, 1827**

Material examined: **Afyonkarahisar:** *Dinar*, Karakuyu Village (38° 04' N / 30° 15' E), 1021 m a.s.l., 28.05.2009, 1 ♂; **Uşak:** *Centrum*, Uşak-Gediz road 12. km Emirfaki Bridge (38° 56' N / 29° 20' E), 690 m a.s.l., 29.05.2009, 2 ♂♂.

Palearctic Distribution: TR, AT, BE, BG, BY, CH, CZ, DE, DK, EE, EN, ES, FR, HU, IE, IT, KZ, NL, PL, RO, RU, SE, SK, UA, UZ.

Distribution in Turkey: İzmit, Kocaeli.

***Dolichopus nubilis* Meigen, 1824**

Material examined: **Afyonkarahisar:** *Başmakçı*, Akçapınar Village 6. km (37° 50' N / 29° 58' E), 852 m a.s.l., 28.05.2009, 1 ♂.

Palearctic Distribution: TR, AM, AT, BA?, BE, BG, CH, CZ, DE, DK, EE, EN, ES, FI, FR, GR, HR?, HU?, IE, IT, KZ, MK, NL, NO, PL, RO, RU, SE, SK? SI?, TJ, UA, UZ.

Distribution in Turkey: Kırklareli.

***Dolichopus perversus* Loew, 1871**

Material examined: **Afyonkarahisar:** *Dinar*, Haydarlı, Akpınarlı Village (38° 12' N / 30° 20' E), 1158 m a.s.l., 11.05.2010, 1 ♂. *Emirdağ*, Aşağıpireyli Village (38° 55' N / 31° 35' E), 949 m a.s.l., 12.05.2010, 1 ♂, 3 ♀♀.

Palearctic Distribution: TR, AM, IL, KZ, TJ.

Distribution in Turkey: Antalya.

***Dolichopus sabinus* Haliday, 1838**

Material examined: **Afyonkarahisar:** *Başmakçı*, Akçapınar Village 3. km (37° 50' N / 29° 59' E), 848 m a.s.l., 28.05.2009, 1 ♂.

Palearctic Distribution: TR, AT, BE, BG, CZ, DE, DK, EE, EN, ES, FI, FR, GR, HU, IE, IL, IT, SE, NL, NO, PL, RO, RU, UA.

Distribution in Turkey: Antalya.

***Dolichopus signifer* Haliday, 1832**

Material examined: **Afyonkarahisar:** *Dinar*, Donbayova Village (38° 09' N / 30° 12' E), 1041 m a.s.l., 28.05.2009, 5 ♂♂, 5 ♀♀; **Kütahya:** *Altıntaş*, Sarayak Village (39° 00' N / 29° 49' E), 1271 m a.s.l., 29.05.2009, 2 ♂♂; **Uşak:** *Centrum*, Karacaömerli Village (38° 33' N / 29° 05' E) 859 m a.s.l., 24.04.2011, 1 ♂.

Palearctic Distribution: TR, AM, AT, BE, BG, CH, CZ, DE, EN, ES, FR, GE, GR, HU, IE, IT, KZ, MA, NL, NO, PL, RO, RU, SE, SK, TJ, TM, UA, UZ.

Distribution in Turkey: Burdur, Edirne, Kırklareli, Manisa.

***Hercostomus apollo* (Loew, 1869)**

Material examined: **Kütahya:** *Altıntaş*, Genişler Village (39° 01' N / 30° 07' E), 1036 m a.s.l., 23.07.2009, 1 ♂; **Uşak:** *Banaz*, Gürlek Village (38° 50' N / 29° 39' E), 1190 m a.s.l., 26.08.2009, 1 ♂, 1 ♀.

Palearctic Distribution: TR, AM, GR, IQ, TN UA.

Distribution in Turkey: Southwest Anatolia.

***Hercostomus chetifer* (Walker, 1849)**

Material examined: **Kütahya:** *Tavşanlı-Harmancık Road* 10. km (39° 38' N / 29° 17' E), 902 m a.s.l., 24.07.2009, 1 ♂.

Palearctic Distribution: TR, AT, BA?, BE, CH, CZ, DE, DZ, EN, ES, FI, FR, GE, GR, HR?, IL, IT, LU, MK, NL, NO, RO, RU, SE, SI, SK?, UA.

Distribution in Turkey: Antalya, Manisa, Muğla.

***Hercostomus convergens* (Loew, 1857)**

Material examined: **Afyonkarahisar:** *Başmakçı*, Akçapınar Village (38° 51' N / 29° 59' E), 847 m a.s.l., 26.05.2011, 3 ♂♂.

Palearctic Distribution: TR, AT, AZ, FR, DE, HU, IT, IL, PL, RO, RU, ES, UA.

Distribution in Turkey: Muğla.

***Hercostomus gracilis* (Stannius, 1831)**

Material examined: **Afyonkarahisar:** *Şuhut*, Akyuva Village, Akyuva Stream (38° 33' N / 30° 26' E), 1258 m a.s.l., 26.06.2009, 1 ♂; **Kütahya:** *Tavşanlı*, Tavşanlı-Harmancık Road 10. km (39° 38' N / 29° 17' E), 902 m a.s.l., 24.07.2009, 10 ♂♂, 3 ♀♀; **Uşak:** *Banaz*, Ovacık Village (38° 48' N / 29° 37' E), 1290 m a.s.l., 25.08.2009, 5 ♂♂, 2 ♀♀.

Palearctic Distribution: TR, AM, AT, BE, BG, CZ, DK, EN, ES, FR, DE, GR, HU, IT, NL, PL RU, SE, TJ, TM, UA.

Distribution in Turkey: Aydın, Burdur, Kırklareli.

***Hercostomus longiventris* (Loew, 1857)**

Material examined: **Kütahya:** *Domaniç*, Kocayayla (39° 52' N / 29° 39' E), 1400 m a.s.l., 17.07.2011, 1 ♂.

Palearctic Distribution: TR, AT, BA?, BE, CH, CZ, DE, FR, GR, HR?, IT, NL, HU?, MA, MK, PL, RO, RU, SI?, TJ.

Distribution in Turkey: Artvin, Muğla.

***Hercostomus phoebus* Parent, 1927**

Material examined: **Afyonkarahisar:** *Centrum*, Akören Village (38° 58' N / 30° 27' E), 1064 m a.s.l., 23.07.2009, 2 ♂♂, 1 ♀; **Kütahya:** *Dumlupınar*, Kızılca Village (38° 52' N / 30° 01' E), 1275 m a.s.l., 12.08.2011, 2 ♂♂; **Uşak:** *Sivash*, Gürlek Village (38° 50' N / 29° 40' E), 1127 m a.s.l., 26.08.2009, 1 ♂, 2 ♀♀.

Palearctic Distribution: TR, AM.

Distribution in Turkey: Antalya, Burdur, Muğla.

***Ortochile nigrocoerulea* Latreille, 1809**

Material examined: Uşak: *Eşme*, Araplar – Kandemirler Road 1. km (38° 16' N / 28° 58' E), 781 m a.s.l., 23.04.2011, 1 ♂.

Palearctic Distribution: TR, AT, BE, SE, ? DK, DZ, EN, ES, FR, GR, HR, HU, IL, IT, ?MK, PL, TN.

Distribution in Turkey: Aydın, Kahramanmaraş.

***Poecilobothrus chrysozygos* (Wiedemann, 1817)**

Material examined: Afyonkarahisar: *Sultanmountain*, Eber (38° 37' N / 31° 08' E), 971 m a.s.l., 25.05.2011, 1 ♂; Kütahya: *Centrum*, Türkmen mountain Türkmensu (39° 29' N / 30° 19' E), 1237 m a.s.l., 18.07.2011, 1 ♂; Uşak: *Centrum*, Eğlence Bridge (38° 48' N / 29° 26' E), 955 m a.s.l., 01.07.2010, 1 ♂, 1 ♀.

Palearctic Distribution: TR, AM, AT, ?BA, BE, BG, BY, CH, CZ, DE, DK, EN, ES, FR, ?HR, HU, KZ, LT, MD, ?MK, NL, PL, RO, RU, SE, SK, ?SI, UA.

Distribution in Turkey: Kırklareli.

***Poecilobothrus regalis* (Meigen, 1824)**

Material examined: Afyonkarahisar: *Başmakçı*, Akçapınar Village 3. km (37° 50' N / 29° 59' E), 849 m a.s.l., 28.05.2009, 5 ♂♂; Kütahya: *Gediz*, Gökler, Kalaycıoğlu Place (39° 01' N / 29° 32' E), 987 m a.s.l., 10.06.2009, 9 ♂♂, 10 ♀♀; Uşak: *Ulubey*, Avgan Village, Avgan Canyon (38° 23' N / 29° 21' E), 571 m a.s.l., 09.06.2009, 5 ♂♂, 2 ♀♀.

Palearctic Distribution: TR, AT, BE, BG, CZ, DE, FR, GE, GR, IR, IT, ?MK, RO, RU, SK, UA, UZ.

Distribution in Turkey: Antalya, Burdur, Denizli, Edirne, Isparta, İstanbul, Kırklareli, Muğla, Tekirdağ.

***Sybistroma impar* (Rondani, 1843)**

Material examined: Kütahya: *Tavşanlı*, Tavşanlı-Harmancık Road 8. km (39° 37' N / 29° 19' E), 982 m a.s.l., 24.07.2009, 1 ♂; Kargılıköy (39° 32' N / 29° 13' E) 733 m a.s.l., 15.07.2010, 4 ♂♂. Şaphane, Karamanca (39° 00' N / 29° 09' E) 900 m a.s.l., 14.07.2010, 1 ♂.

Palearctic Distribution: TR, BG, GR, HU, IL, IT, RO.

Distribution in Turkey: Antalya.

***Sybistroma sphenoptera* (Loew, 1859)**

Material examined: Kütahya: *Domaniç*, Domaniç-Bozüyük road, Sefavillage (39° 52' N / 29° 38' E), 1111 m a.s.l., 17.07.2011, 1 ♂.

Palearctic Distribution: TR, AT, CZ, DE, HU, IT, PL, RO.

Distribution in Turkey: Çanakkale, Kars, Kırklareli.

***Tachytrectus notatus* (Stannius, 1831)**

Material examined: Afyonkarahisar: *Bayat* (38° 58' N / 30° 53' E) 1202 m a.s.l., 26.05.2010, 3 ♂♂; Kütahya: *Gediz*, Gediz-Altıntaş Road 17.km (38° 58' N / 29° 33' E), 864 m a.s.l., 29.05.2009, 1 ♂; Uşak: *Centrum*, Bozköy (38° 43' N / 29° 33' E), 914 m a.s.l., 10.06.2009, 1 ♂.

Palearctic Distribution: TR, AM, AT, ?BA, BE, BG, CH, CZ, DE, DK, EN, ES, FI, FR, GR, ?HR, HU, IE, IL, IT, ?MK, NL, NO, PL, RO, SE, ?SI, SK, SY, RU, TM, UA.

Distribution in Turkey: Antalya, Aydın, Muğla.

Hydrophorinae Lioy, 1864

***Hydrophorus balticus* (Meigen, 1824)**

Material examined: Afyonkarahisar: *Başmakçı*, Akçapınar Village 3. km (37° 50' N / 29° 59' E), 849 m a.s.l., 11.05.2010, 4 ♂♂, 4 ♀♀; **Kütahya:** *Gediz*, Değirmenönü Village (38° 57' N / 29° 22' E), 716 m a.s.l., 29.05.2009, 1 ♂; **Uşak:** *Sivashlı*, Pınarbaşı, Yediahar Place (38° 28' N / 29° 42' E), 1176 m a.s.l., 09.06.2009, 6 ♂♂, 6 ♀♀.

Palearctic Distribution: TR, AF, AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, EN, ES, FI, FR, GE, GR, HU, IE, IL, IT, MA, NL, NO, PL, RO, RU, SE, UA.

Distribution in Turkey: Antalya, Aydın, Denizli, Isparta, Kırklareli, Manisa, Rize.

***Hydrophorus praecox* (Lehmann, 1822)**

Material examined: Afyonkarahisar: *Sandıklı*, Ballı Lake (38° 16' N / 30° 13' E), 1146 m a.s.l., 28.05.2009, 1 ♂; **Uşak:** *Sivashlı*, Pınarbaşı, Yediahar Place (38° 28' N / 29° 42' E), 1176 m a.s.l., 09.06.2009, 1 ♀.

Palearctic Distribution: TR, AT, BE, BG, CH, CN, CY, CZ, DE, DK, EE, EG, EN, ES, FI, FR, GE, HU, IE, IL, IQ, IR, KZ, NL, NO, PL, RO, RU, SE, SK, UA.

Distribution in Turkey: Antalya, Bolu, Burdur.

***Liancalus virens* (Scopoli, 1763)**

Material examined: Afyonkarahisar: *Sultanmountain*, Kırca Village (38° 30' N / 31° 13' E), 1101 m a.s.l., 12.05.2010, 1 ♀; **Kütahya:** *Gediz*, Murat Mountain 22. km, (38° 57' N / 29° 36' E), 1323 m a.s.l., 29.05.2009, 1 ♂; **Uşak:** *Banaz*, Küçükler-Murat Mountain Road 13. km (38° 56' N / 29° 38' E), 1755 m a.s.l., 10.06.2009, 1 ♂.

Palearctic Distribution: TR, AT, BE, BG, CH, CY, CZ, DE, DK, EN, ES, FI, FR, GE, GR, HU, IE, IL, IT, KG, KZ, LU, SE, MA, NL, NO, PL, RO, RU, SK, TJ, TN, UA.

Distribution in Turkey: Kırklareli, Manisa, Muğla.

***Thinophilus (Schoenophilus) versutus* Haliday, 1851**

Material examined: Afyonkarahisar: *İscehisar*, Çatağıl Village, Ağzıkara Mahallesi (39° 00' N / 30° 46' E) 1358 m a.s.l., 26.05.2010, 2 ♂♂, 2 ♀♀.

Palearctic Distribution: TR, AL, BE, BG, DE, DK, EN, FR, GR, HU, IE, IT, MA, NL, PL, RU, RO, SE, UA.

Distribution in Turkey: Antalya.

Medeterinae Lioy, 1864

***Medetera muralis* Meigen, 1824**

Material examined: Uşak: *Centrum*, Üç kuyular Village (38° 47' N / 29° 08' E), 720 m a.s.l., 22.04.2010, 1 ♂.

Palearctic Distribution: TR, AT, BE, BY, CZ, DE, DK, EE, EN, FI, FR, HU, IE, IL, IT, NL, NO, PL, RO, RU, SE, SK.

Distribution in Turkey: Antalya, Denizli.

Neurigoninae Aldrich, 1905

***Neurigona erichsoni* (Zetterstedt, 1843)**

Material examined: Kütahya: *Centrum*, İnliköy (39° 29' N / 30° 13' E), 1065 m a.s.l., 18.07.2011, 1 ♂.

Palearctic Distribution: TR, AT, BE, CH, CZ, DE, DK, EE, FR, HU, IR, NL, NO, PL, RO, RU, SE, UA.

Distribution in Turkey: Bursa, Çanakkale.

***Neurigona suturalis* (Fallén, 1823)**

Material examined: Afyonkarahisar: *Sandıklı*, Sorkun, Işıklı Road 3 km (37° 23' N / 28° 58' E) 1200 m a.s.l., 21.05.2011, 1 ♂, 1 ♀; *Sultan Mountain*, Deresine - Sultan Mountain 2.km (38° 32' N / 31° 09' E) 1209 m a.s.l., 25.05.2011, 1 ♂.

Palearctic Distribution: TR, AT, BE, CH, CZ, DE, DK, EN, FI, FR, GE, HU, IT, NL, NO, PL, RO, RU, SE, SK.

Distribution in Turkey: New record for Turkey.

Rhaphiniinae Bigot, 1852

***Rhaphium appendiculatum* Zetterstedt, 1849**

Material examined: Afyonkarahisar: Çay, Devestream Village, Acılı Place (38° 28' N / 30° 50' E), 1024 m a.s.l., 11.05.2010, 1 ♂; **Kütahya:** Gediz, Murat Mountain, Gediz Road 9. km (38° 57' N / 29° 29' E), 785 m a.s.l., 25.08.2009, 1 ♂; **Uşak:** Centrum, Çamyuva Village (38° 47' N / 29° 34' E), 1080 m a.s.l., 25.08.2009, 1 ♂.

Palearctic Distribution: TR, AF, AL, AT, BG, CZ, DE, DK, EN, ES, FI, FR, GE, GR, HU, IE, IR, IT, MA, NL, PL, RO, RU, SE, UA.

Distribution in Turkey: Antalya, İzmir, Kırklareli, Manisa.

***Rhaphium brevicorne* Curtis, 1835**

Material examined: Afyonkarahisar: Dazkırı, Acı lake (37° 50' N / 29° 46' E), 844 m a.s.l., 28.05.2009, 3 ♂; **Kütahya:** Gediz, Gökler Beldesi, Kalaycıoğlu Place (39° 01' N / 29° 32' E), 987 m a.s.l., 10.06.2009, 2 ♂♂; **Uşak:** Centrum, Uc kuyular Village (38° 47' N / 29° 08' E), 720 m a.s.l., 22.04.2010, 2 ♂♂; Sorkun Village 1. km (38° 43' N / 29° 24' E) 975 m, 01.07.2010, 2 ♂♂.

Palearctic Distribution: TR, AL, BE, DE, EN, ES, FR, GR, IE, IQ, IT, NL, RU, TJ.

Distribution in Turkey: Antalya, Manisa, Tekirdağ.

***Rhaphium caliginosum* Meigen, 1824**

Material examined: Afyonkarahisar: Dinar, Ulubey Kasabası, Cumhuriyet Village (38° 11' N / 30° 14' E), 332 m a.s.l., 11.05.2010, 2 ♂♂; **Kütahya:** Gediz, Murat Mountain, Gediz Road 9. km (38° 57' N / 29° 29' E), 785 m a.s.l., 25.08.2009, 1 ♂; **Uşak:** Banaz, Kocahisar, Küçükler Dam (38° 52' N / 29° 37' E), 1278 m a.s.l., 25.08.2009, 1 ♂.

Palearctic Distribution: TR, AL, AM, AT, BE, BG, CH, CZ, DE, DK, EE, EN, ES, FI, FR, GR, HU, IE, IL, IT, MA, NL, NO, SK, PL, ?RO, RU, SE, SY, UA.

Distribution in Turkey: İzmir, Tekirdağ.

***Rhaphium fascipes* (Meigen, 1824)**

Material examined: Kütahya: Dumlupınar, Kızılca Village (38° 52' N / 30° 01' E), 1220 m a.s.l., 20.04.2010, 3 ♂♂; Dumlupınar Place, (38° 51' N / 29° 59' E), 1245 m a.s.l., 19.04.2010, 3 ♂♂.

Palearctic Distribution: TR, AT, BE, CZ, DE, DK, EE, EN, ES, FI, FR, GR, HU, IE, IT, MA, NL, NO, PL, RO, RU, SE, SK, UA.

Distribution in Turkey: Antalya, Denizli.

***Rhaphium laticorne* (Fallén, 1823)**

Material examined: Kütahya: Tavşanlı, Akçaşehir Village (39° 26' N / 29° 37' E), 875 m a.s.l., 21.04.2010, 3 ♂♂; **Uşak:** Sivash, Uşak kararoad 6. km, Banaz Bridge (38° 33' N / 29° 37' E) 796 m a.s.l., 30.06.2010, 1 ♂.

Palearctic Distribution: TR, AT, BE, BG, BY, CZ, DE, DK, EN, FI, FR, HU, IE, IT, LU, NL, NO, PL, RO, RU, SE, SK, UA.

Distribution in Turkey: Korucuk, Southwest Anatolia.

***Rhaphium micans* (Meigen, 1824)**

Material examined: Kütahya: Gediz, Gölcük Village (38° 53' N / 29° 17' E) 649 m a.s.l., 14.07.2010, 5 ♂♂.

Palearctic Distribution: TR, AT, BE, BG, BY, CH, CN, CZ, DE, EN, ES, FI, FR, HU, IT, NL, NO, PLRO, RU, SE, SK, TJ.

Distribution in Turkey: Muğla.

Sciapodinae Becker, 1917

***Sciapus flavicinctus* (Loew, 1857)**

Material examined: **Afyonkarahisar:** *Dazkırı*, Acı Lake (37° 50' N / 29° 46' E), 844 m a.s.l., 28.05.2009, 1 ♂; **Kütahya:** *Gediz*, Değirmenönü Village (38° 57' N / 29° 22' E), 716 m a.s.l., 29.05.2009, 1 ♂; **Uşak:** *Eşme*, Hacıkadirli Village (38° 23' N / 29° 02' E), 850 m a.s.l., 24.08.2009, 1 ♂.

Palearctic Distribution: TR, AZ, BG, DE, FR, GR, HU, IL, IT, RO, RU, SK.

Distribution in Turkey: Adana.

***Sciapus heteropygus* Parent, 1926**

Material examined: **Kütahya:** *Dumlupınar*, Zafertepe Çalköy, Başkomutan National Park (38° 56' N / 30° 05' E), 1110 m a.s.l., 12.08.2011, 1 ♂.

Palearctic Distribution: TR, CH, CZ, DE, DK, EN, ES, FR, HU, IL, RO, SK.

Distribution in Turkey: Muğla.

***Sciapus maurus* Parent, 1930**

Material examined: **Uşak:** *Banaz*, Hatiplar Village (38° 46' N / 29° 46' E) 958 m a.s.l., 30.06.2010, 1 ♂.

Palearctic Distribution: TR, AL, BE, BG, IL.

Distribution in Turkey: Antalya.

Sympycninae Aldrich, 1905

***Campsicnemus curvipes* (Fallén, 1823)**

Material examined: **Afyonkarahisar:** *Sandıklı*, Ballı Lake (38° 16' N / 30° 13' E), 1146 m a.s.l., 28.05.2009, 1 ♂; **Kütahya:** *Centrum*, Küçükler-Murat Mountain Road 22. km (38° 57' N / 29° 36' E), 1456 m a.s.l., 10.06.2009, 1 ♂; **Uşak:** *Banaz*, Ulupınar Village (38° 37' N / 29° 48' E) 1129 m a.s.l., 30.06.2010, 1 ♂, 6 ♀♀.

Palearctic Distribution: TR, AL, AT, AM, AZ, BE, BG, BY, CH, CZ, DE, DK, EE, EN, ES, FI, FR, GR, HU, IE, IT, LU, MA, ?MK, NL, NO, PL, RO, RU, SE, ?SI, SK, UA.

Distribution in Turkey: Antalya, Bolu, Kırklareli, Manisa.

***Campsicnemus magius* (Loew, 1845)**

Material examined: **Kütahya:** *Altıntaş*, Genişler Village (39° 01' N / 30° 07' E), 1036 m a.s.l., 23.07.2009, 1 ♂.

Palearctic Distribution: TR, AT, BE, BG, CZ, DE, EN, ES, FR, HU, IL, IT, NL, RO, RU, ?SI, TJ, TM, UA.

Distribution in Turkey: Korucuk.

***Campsicnemus simplicissimus* Strobl, 1906**

Material examined: **Afyonkarahisar:** *Başmakçı*, Akçapınar Village 6. km (37° 50' N / 29° 58' E), 852 m a.s.l., 28.05.2009, 1 ♂; **Kütahya:** *Tavşanlı*, Kayı Village, Koca çay (39° 30' N / 29° 32' E), 840 m a.s.l., 20.04.2010, 4 ♂♂, 2 ♀♀; **Uşak:** *Centrum*, Koyunbeyli Village (38° 34' N / 29° 29' E), 920 m a.s.l., 09.06.2009, 1 ♂.

Palearctic Distribution: TR, BG, CH, ES, FR, GR, HU, IL, IT, RU.

Distribution in Turkey: Antalya, Konya.

***Campsicnemus umbripennis* Loew, 1856**

Material examined: **Afyonkarahisar:** *Sandıklı*, Ballı Lake (38° 16' N / 30° 13' E), 1146 m a.s.l., 28.05.2009 1 ♂, 7 ♀♀; **Kütahya:** *Gediz*, Gökler- Cebrail Road 6. km (38° 03' N / 29° 33' E), 1389 m a.s.l., 10.06.2009, 6 ♂♂, 4 ♀♀; **Uşak:** *Sivashi*, Pınarbaşı, Yediahar Place (38° 28' N / 29° 42' E), 1176 m a.s.l., 09.06.2009, 1 ♂, 5 ♀♀.

Palearctic Distribution: TR, AF, AM, AT, BE, BG, CH, CZ, DE, EN, ES, FR, HU, IL, IQ, IT, PT, PL, RO, RU, SK, TJ, TM.

Distribution in Turkey: Antalya, Erzurum, Hakkâri, Isparta, Kars, Manisa, Muğla.

***Sympycnus pulicarius* (Fallén, 1823)**

Material examined: **Afyonkarahisar:** *Bolvadin*, Özburun Alabalık Çiftliği (38° 51' N / 31° 00' E), 1227 m a.s.l., 24.05.2011, 4 ♂♂, 4 ♀♀; **Kütahya:** *Gediz*, Altıntaş Road 22. km (38° 59' N / 29° 96' E), 1004 m a.s.l., 29.05.2009, 1 ♂; **Uşak:** *Sivash*, Pınarbaşı, Yediahar Place (38° 28' N / 29° 42' E), 1176 m a.s.l., 09.06.2009, 1 ♂.

Palearctic Distribution: TR, AT, BE, BG, CH, CZ, DE, DK, EE, EN, ES, FI, FR, GR, HU, IE, IT, LU, NO, NL, PL, RU, RO, SE, SK, UA.

Distribution in Turkey: Aydın, Kırklareli, Muğla, Van.

***Syntormon aulicus* (Meigen, 1824)**

Material examined: **Afyonkarahisar:** *Evciler*, Tugaylı Village (38° 06' N / 30° 06' E), 856 m a.s.l., 25.05.2010, 3 ♂♂, 2 ♀♀; **Kütahya:** Kütahya-Afyonkarahisar Road 60. km, Tatahmet Bridge (39° 04' N / 30° 12' E), 1029 m a.s.l., 31.07.2009, 4 ♂♂.

Palearctic Distribution: TR, AL, AT, BE, BG, CZ, DE, DK, EN, ES, FR, GR, IE, IT, MA, PL, RU, SE, TN.

Distribution in Turkey: Adıyaman, Burdur.

***Syntormon denticulatum* (Zetterstedt, 1843)**

Material examined: **Afyonkarahisar:** *Dinar*, Cumhuriyet Village (38° 11' N / 30° 14' E), 1089 m a.s.l., 28.05.2009, 1 ♂; **Kütahya:** *Domaniç*, Sefaköy (39° 49' N / 29° 38' E), 905 m a.s.l., 24.07.2009, 3 ♂♂; **Uşak:** *Sivash*, Erice Village (38° 35' N / 29° 38' E), 903 m a.s.l., 29.05.2009; 3 ♂♂.

Palearctic Distribution: TR, AF, AM, BG, DE, EE, FR, IL, IT, Middle Asia, PL, RO, RU, UA.

Distribution in Turkey: Manisa, Muğla.

***Syntormon fuscipes* (von Roser, 1840)**

Material examined: **Afyonkarahisar:** *Sandıklı*, Sorkun- Akdağ Road 19. km (38° 19' N / 30° 02' E), 1419 m a.s.l., 21.06.2011, 5 ♂♂, 1 ♀; **Kütahya:** *Tavşanlı*, Tavşanlı-Harmancık Road 10. km (39° 38' N / 29° 17' E), 902 m a.s.l., 24.07.2009, 1 ♂.

Palearctic Distribution: TR, AD, AT, BE, BG, CZ, DE, EN, ES, FR, GR, HU, NL, PL, RO, RU, SE, SK, UA.

Distribution in Turkey: Adıyaman.

***Syntormon metathesis* (Loew, 1850)**

Material examined: **Afyonkarahisar:** *Dinar*, Karakuyu Village (38° 05' N / 30° 13' E), 1020 m a.s.l., 28.05.2009, 1 ♂; *Başmakçı*, Akçapınar Village (37° 50' N / 29° 58' E), 852 m a.s.l., 11.05.2010, 4 ♂♂, 1 ♀.

Palearctic Distribution: TR, AT, BE, CH, CZ, DE, EE, FI, ES, HU, SE, NL, PL, RO, RU, SK

Distribution in Turkey: Burdur.

***Syntormon monile* (Haliday, 1851)**

Material examined: **Afyonkarahisar:** *Sandıklı*, Sorgun, Tokalı Kanyon Girişi (38° 19' N / 30° 01' E), 1456 m a.s.l., 25.05.2010, 1 ♂; **Kütahya:** *Gediz*, Küçükler-Murat Mountain Road 21. km (38° 56' N / 29° 36' E), 1466 m a.s.l., 10.06.2009, 1 ♂; **Uşak:** *Banaz*, Küçükler-Murat Mountain Road 19. km (38° 55' N / 29° 36' E), 1716 m a.s.l., 10.06.2009, 5 ♂♂.

Palearctic Distribution: TR, AL, AT, BE, BG, CH, CZ, DE, DK, EN, FR, HU, IE, IT, MA, NL, PL, SE, SK, RO, RU, TN.

Distribution in Turkey: Kars.

***Syntormon pallipes* (Fabricius, 1794)**

Material examined: **Afyonkarahisar:** Afyonkarahisar Road 60. km, Tatahmet Bridge (39° 04' N / 30° 12' E), 1029 m a.s.l., 31.07.2009, 4 ♂♂, 2 ♀♀; **Kütahya:** Seyitömer, Köprüören Village, (39° 30' N / 29° 44' E), 1026 m a.s.l., 26.04.2009, 11 ♂♂; **Uşak:** Ulubey, Avgan Stream (38° 24' N / 29° 26' E), 650 m a.s.l., 19.04.2010, 11 ♂♂, 18 ♀♀.

Palearctic Distribution: TR, AL, AF, AT, BE, BG, CH, CN, CZ, DE, DK, EE, EG, EN, ES, FI, FR, GE, GR, HU, IE, IL, IQ, IR, IS, IT, MA, NL, NO, PL, PT, RO, RU, SE, ?SI, SK, TJ, UA, UZ.

Distribution in Turkey: Adıyaman, Ankara, Antalya, Bergama (İzmir), Burdur, Denizli, Edirne, Hakkari, Isparta, Korucuk, Kırklareli, Manisa, Muğla, Tekirdağ, Van.

***Syntormon pumilis* (Meigen, 1824)**

Material examined: **Afyonkarahisar:** Çay, Çayır yazı Village, Genali Place (38° 22' N / 30° 44' E), 1016 m a.s.l., 11.05.2010, 1 ♂, 3 ♀♀; **Uşak:** Sivash, Erice Village (38° 35' N / 29° 38' E), 904 m a.s.l., 25.04.2009, 4 ♂♂; 4 ♀♀.

Palearctic Distribution: TR, AF, AM, AT, BE, BG, BY, CZ, DE, DK, EE, EG, EN, ES, FI, FR, GR, HU, IE, IL, IT, MA, Middle East, NO, PL, RO, RU, SE, SK, ?SI, TN, UA.

Distribution in Turkey: Erzurum, Kars, Korucuk.

***Syntormon subinermis* (Loew, 1869)**

Material examined: **Afyonkarahisar:** Dinar, Ulubey Kasabası, Cumhuriyet Village (38° 11' N / 30° 14' E), 332 m a.s.l., 11.05.2010, 5 ♂♂; **Uşak:** Sivash, Erice Village (38° 35' N / 29° 38' E), 904 m a.s.l., 25.04.2009, 3 ♂♂; 2 ♀♀.

Palearctic Distribution: TR, AT, CZ, DE, FR, GE, HU, IL, KG, RO, RU, SE, SK, TJ.

Distribution in Turkey: Adıyaman, Erzurum.

***Telmaturgus tumidulus* (Raddatz, 1873)**

Material examined: **Afyonkarahisar:** Bayat (38° 58' N / 30° 53' E) 1202 m a.s.l., 26.05.2010, 3 ♂♂, 6 ♀♀.

Palearctic Distribution: TR, AT, BE, CZ, DE, EN, FR, HU, SE, NL, NO, PL, RO, RU.

Distribution in Turkey: Kars.

***Teuchophorus bisetus* Loew, 1871**

Material examined: **Afyonkarahisar:** Başmakçı, Akçapınar Village (38° 51' N / 29° 59' E), 847 m a.s.l., 26.05.2011, 17 ♂♂.

Palearctic Distribution: TR, IL, IQ, TJ, UZ.

Distribution in Turkey: Aydın.

Discussion

As a result of this study, 54 dolichopodid species were recorded as new for the Inner West Anatolia and with previous records, (Tonguç, Barlas, 2011; Tonguç et al., 2013; Tonguç et al., 2016a, 2016b) the total number of dolichopodids of the Inner West Anatolia increased to 77 species. *Neurigona suturalis* is a new record for the Turkish dolichopodid fauna. The full list of dolichopodid species divided by provinces is given in Table 1. Distributions of the number of species belong to ten identified subfamilies are given in Figure 2. *Hercostomus anatoliensis* was described in 2016 by Tonguç et al (2016b) and was known previously only from the Afyonkarahisar,

Kütahya and Uşak Provinces of Turkey. Forty-nine, 47 and 43 species were recorded from the Afyonkarahisar, Kütahya and Uşak Provinces, respectively. Here we enriched the fauna of the studied provinces by 38 new species records for Afyonkarahisar, 35 for Kütahya, 31 for Uşak. Twenty-nine species were distributed in all provinces. Thirty-nine out of 77 species identified from the Inner West Anatolia are known to have a West Palaearctic distribution, while the other 38 of them are distributed in the West and East Palearctic Regions.

In Table 1, new records for the studied region are marked with an asterisk (*) in faunistic remarks.

Table 1. Distribution by provinces of the species identified in the Inner West Anatolia

Species	Distribution of identified species by provinces			Faunistic remarks
	AFYONKARAHİSAR	KÜTAHYA	UŞAK	
<i>Argyra argyria</i> (Meigen, 1824)	+	+	+	-
<i>A. vestita</i> (Wiedemann, 1817)	+	-	-	*
<i>Chrysotus pennatus</i> Lichwardt, 1902	-	+	+	*
<i>C. pulchellus</i> Kowarz, 1874	+	-	-	*
<i>C. suvais</i> Loew, 1857	-	-	+	*
<i>Diaphorus hoffmannseggii</i> Meigen, 1830	-	+	-	*
<i>Dolichopus austriacus</i> Parent, 1927	+	-	-	-
<i>D. calinotus</i> Loew, 1871	+	-	-	-
<i>D. excisus</i> Loew, 1859	+	+	+	*
<i>D. latilimbatus</i> Macquart, 1827	+	-	+	*
<i>D. nubilis</i> Meigen, 1824	+	-	-	*
<i>D. perversus</i> Haliday, 1838	+	-	-	*
<i>D. sabinus</i> Haliday, 1838	+	-	-	*
<i>D. signifer</i> Haliday, 1832	+	+	+	*
<i>Hercostomus anatoliensis</i> Tonguç et al., 2016	+	+	+	-
<i>H. apollo</i> (Loew, 1869)	-	+	+	*
<i>H. chetifer</i> (Walker, 1849)	-	+	-	*
<i>H. convergens</i> (Loew, 1857)	+	-	-	*
<i>H. fulvicaudis</i> (Haliday, 1851)	+	+	-	-
<i>H. gracilis</i> (Stannius, 1831)	+	+	+	*
<i>H. griseifrons</i> Becker, 1910	-	+	+	-
<i>H. longiventris</i> (Loew, 1857)	-	+	-	*
<i>H. phoebus</i> Parent, 1927	+	+	+	*
<i>Ortochile nigrocoerulea</i> Latreille, 1809	-	-	+	*
<i>Poecilobothrus chrysozygos</i> (Wiedemann, 1817)	+	+	+	*

Species	Distribution of identified species by provinces			Faunistic remarks
	AFYONKARAHİSAR	KÜTAHYA	UŞAK	
<i>P. principalis</i> (Loew, 1861)	-	+	-	-
<i>P. regalis</i> (Meigen, 1824)	+	+	+	*
<i>Sybistroma crinipes</i> Staeger, 1842	-	-	+	-
<i>S. impar</i> (Rondani, 1843)	-	+	-	*
<i>S. lorifer</i> (Mik, 1878)	-	-	+	-
<i>S. nodicornis</i> Meigen, 1824	+	-	+	-
<i>S. sphenoptera</i> Loew, 1859	-	+	-	*
<i>Tachytrectus notatus</i> (Stannius, 1831)	+	+	+	*
<i>Hydrophorus balticus</i> (Meigen, 1824)	+	+	+	*
<i>H. praecox</i> (Lehmann, 1822)	+	-	+	*
<i>Liancalus virens</i> (Scopoli, 1763)	+	+	+	*
<i>Orthoceratium lacustre</i> (Scopoli, 1763)	+	+	-	-
<i>Scellus notatus</i> (Fabricius, 1781)	+	-	-	-
<i>Thinophilus</i> (<i>Schoenophilus</i>) <i>versutus</i> Haliday, 1851	+	-	-	*
<i>Medetera perfida</i> Parent, 1932	-	-	+	-
<i>M. muralis</i> Meigen, 1824	-	-	+	*
<i>Neurigona abdominalis</i> (Fallen, 1823)	-	+	-	-
<i>N. erichsoni</i> (Zetterstedt, 1843)	-	+	-	*
<i>N. suturalis</i> (Fallén, 1823)	+	-	-	New record for Turkey
<i>Peloropodes acuticornis</i> (Oldenberg, 1916)	-	+	-	-
<i>Rhaphium albifrons</i> Zetterstedt, 1843	-	+	-	-
<i>R. appendiculatum</i> Zetterstedt, 1849	+	+	+	*
<i>R. brevicorne</i> Curtis, 1835	+	+	+	*
<i>R. caliginosum</i> Meigen, 1824	+	+	+	*
<i>R. fascipes</i> (Meigen, 1824)	+	+	-	*
<i>R. laticorne</i> (Fallén, 1823)	-	+	+	*
<i>R. micans</i> (Meigen, 1824)	-	+	-	*
<i>Sciapus flavicinctus</i> (Loew, 1857)	+	+	+	*
<i>S. heteropygus</i> Parent, 1926	-	+	-	*
<i>S. maurus</i> Parent, 1930	-	-	+	*
<i>Campsicnemus barbitibia</i> Stackelberg, 1947	-	-	+	-
<i>C. crinitarsis</i> Strobl, 1906	-	-	+	-
<i>C. curvipes</i> (Fallén, 1823)	+	+	+	*

Species	Distribution of identified species by provinces			Faunistic remarks
	AFYONKARAHİSAR	KÜTAHYA	UŞAK	
<i>C. filipes</i> Loew, 1859	+	-	-	-
<i>C. magius</i> (Loew, 1845)	-	+	-	*
<i>C. simplicissimus</i> Strobl, 1906	+	+	+	*
<i>C. umbripennis</i> Loew, 1856	+	+	+	*
<i>Sympycnus pulicarius</i> (Fallén, 1823)	+	+	+	*
<i>S. simplicipes</i> Becker, 1908	+	+	+	-
<i>Syntormon aulicus</i> (Meigen, 1824)	+	+	-	*
<i>S. denticulatum</i> (Zetterstedt, 1843)	+	+	+	*
<i>S. fuscipes</i> (von Roser, 1840)	+	+	-	*
<i>S. metathesis</i> (Loew, 1850)	+	-	-	*
<i>S. monile</i> (Haliday, 1851)	+	+	+	*
<i>S. pallipes</i> (Fabricius, 1794)	+	+	+	*
<i>S. pumilis</i> (Meigen, 1824)	+	-	+	*
<i>S. subinermis</i> (Loew, 1869)	+	-	+	*
<i>S. zelleri</i> (Loew, 1850)	+	-	+	-
<i>Telmaturdus tumidulus</i> (Raddatz, 1873)	+	-	-	*
<i>Teuchophorus bisetus</i> Loew, 1871	+	-	-	*
<i>T. chaetifemoratus</i> Pollet & Kechev, 2007	-	+	+	-
<i>Xanthochlorus tenellus</i> (Wiedemann, 1817)	-	+	-	-
TOTAL	49	47	43	54

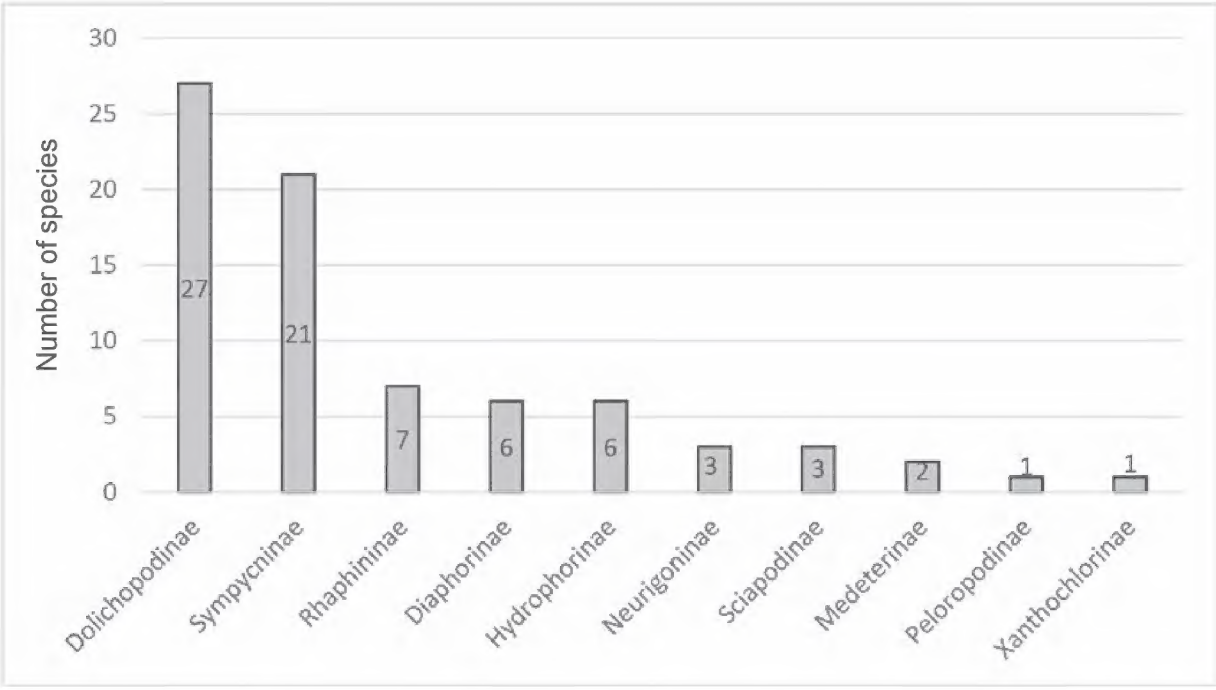


Figure 2. Number of species belonging to the recorded subfamilies

The number of species belonging to the family Dolichopodidae identified in Turkey increases to 201 with this new record. It is estimated that the actual fauna of Dolichopodidae of Turkey is in the range of at least between 350 and 400 species. Turkey has very rich species diversity because of containing different biogeographic regions, ecosystems and habitats.

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